

## **REMARKS**

In the Official Action dated February 19, 2009, Claims 27-33 and 62-69 are cancelled. Claims 24-61 are withdrawn. Claims 1-26 and 70-72 are examined. Claim 5 has been objected to. Claims 1, 18, 18 and claims 2-7, 9-17 and 19-26 dependent thereon are rejected under 35 U.S.C. 112, first paragraph as allegedly lacking written description. Claims 1-4, 8-21, 25-26 and 70-72 have been rejected under 35 U.S.C. §112, first paragraph as allegedly lacking enabling support. Claims 1-4, 8-21 and 70-71 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Lewis et al. Gene 2000 Apr. 4:246(1-2):81-91 ("Lewis et al.") and GenBank Accession No. AF 191099. Claims 25-26 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Lewis et al. in view of Lee et al. (FEBS Lett 2000 Dec. 8:486(2):103-6 ("Lee et al.") and Parveez et al. (Biochem Soc. Trans. 2000 28(6):969-972 ("Parveez et al").

This response addresses all outstanding objections and rejections. Applicants therefore respectfully submit that the present application is in condition for allowance. Favorable consideration of all pending claims is therefore respectfully requested.

### ***Amendments***

Claim 5 has been amended to insert the article "An" which was inadvertently omitted in the previous amendment. No new matter has been added to address this minor formality. Claims 1, 8, 18 and 72 have been amended to recite "and wherein said nucleic acid permits discrimination of plant tissue at different developmental stages". Support for the amendment is found in the specification, e.g. at page 4, lines 18-19. No new matter has been added. Claims

### ***Formality Objections***

The Examiner objects to Claim 5 as lacking the article “An” that appeared previously in the claim. Applicants have reinserted the article “An” to address this objection as it was inadvertently omitted in the prior response. Now new matter has been introduced.

### ***35 U.S.C. § 112, first paragraph***

Claims 1, 8 and 18 as well as their dependents are rejected under 35 U.S.C. §112, first paragraph as allegedly lacking descriptive support. Applicants respectfully submit that although the specification makes reference to nucleotide sequences at page 18, line 6, the applicants clearly describe “similarity” as referring to exact identity at the nucleotide or amino acid level at page 18, lines 12-13. Accordingly, it is respectfully submitted that the specification equally describes similarity at 80% and beyond at the nucleotide and amino acid level sufficient for compliance with the provisions of 35 U.S.C. §112, first paragraph. Accordingly, the rejection of Claims 1, 8, and 18 under 35 U.S.C. §112, first paragraph (written description) is overcome and withdrawal thereof is respectfully requested.

Claims 1-4, 8-21, 25-26 and 70-72 have been rejected under 35 U.S.C. §112, first paragraph as allegedly lacking enabling support. The Examiner admits that the specification is enabling for an isolated nucleic acid molecule encoding a polypeptide comprising the amino acid sequences set forth in SEQ ID NO:2. The Examiner alleges that the specification does not provide enablement for isolated nucleic acid molecules encoding polypeptides comprising other amino acid sequences.

In response and in the first instance, Claims 70-71 have been cancelled without prejudice. In regard to the pending claims, Applicants respectfully submit that the sequence analysis exemplified at Examples 2-6 and the sequence alignments provide a roadmap to guide

the skilled artisan how to alter the amino acid of e.g. SEQ ID NO:2 without changing its specific function. Moreover, it is submitted that any additional sequence analysis and peroxiredoxin activity testing would not be undue and would be performed within the ken of the skilled artisan.

In view of the foregoing, it is respectfully submitted that based on the present teaching, those skilled in the art are able to practice the claimed invention without undue experimentation. Therefore, the enablement rejection under 35 U.S.C. §112, first paragraph, is overcome. Withdrawal of the rejection is respectfully requested.

**35 U.S.C. §102(b)**

Claims 1-4, 8-21 and 70-71 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Lewis et al. and GenBank Accession No. AF191099. The Examiner alleges that Lewis teaches an isolated nucleic acid molecule from buckwheat (*Fagopyrum esculentum* Moench) that encodes a l-Cys peroxiredoxin polypeptide comprising an amino acid sequence having 79% similarity to instant SEQ ID NO:2. The isolated nucleic acid molecule taught by Lewis comprises, according to the Examiner, a sequence of nucleotides that is substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3, or its complementary form, or a nucleotide sequence having at least about 71% similarity to SEQ ID NO:1 or SEQ ID NO:3 or its complementary form, or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or SEQ ID NO:3 or their complementary forms under low stringency conditions, because it encodes a peroxiredoxin polypeptide. The Examiner contends that Lewis et al. teach a nucleotide sequence having at least 85% or 95% sequence identity with SEQ ID NO:1 or 3 since Lewis et al. allegedly teach a sequence which comprises nucleotides 1-5 of SEQ ID NO:1, which purportedly has 100% sequence identity with SEQ ID NO:1.

Applicants respectfully submit that the claims, as amended, require the nucleic acid molecule to encode a protein comprising an amino acid sequence as set forth in SEQ ID NO: 2 or having at least 80% identity with SEQ ID NO: 2 wherein the nucleic acid permits discrimination of plant tissue at different developmental stages (see independent claims 1, 8 and 18). The nucleic acid molecule taught by Lewis does not encode a protein having at least 80% sequence identity with SEQ ID NO: 2 wherein the nucleic acid permits discrimination of plant tissue at different developmental stages, as presently claimed. Therefore, Lewis does not teach each and every element of the claimed nucleic acid molecule.

Further, with respect to Claim 72, Lewis does not teach or suggest a nucleic acid molecule comprising a nucleotide sequence having at least 85% or 95% sequence identity with SEQ ID NO: 1 or 3, or nucleotide sequence capable of hybridizing to SEQ ID NO: 1 or 3 under the recited high stringency conditions, wherein the nucleic acid permits discrimination of plant tissue at different developmental stages as presently claimed.

Accordingly, the anticipation rejection under 35 U.S.C. §102(b) based on Lewis and GenBank Accession No. AF191009 is obviated, and withdrawal thereof is respectfully requested.

***35 U.S.C. §103(a)***

Claims 25-26 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Lewis in view of Lee et al. (FEBS Lett. 2000 Dec 8; 486(2):103-6) ("Lee") and Parveez et al. (Biochemical Society Transactions, 2000, 28(6):969-972) ("Parveez"). Claim 25 is drawn to a plant cell, essentially a plant cell comprising a nucleic acid molecule as characterized in claim 1. Claim 26 depends on claim 25 and further defines the plant as a cell of an oil-palm plant.

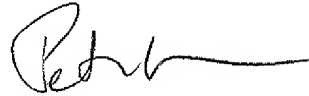
Lee allegedly teaches that transgenic tobacco plants overexpressing Rice 1-Cys-peroxiredoxin exhibit higher resistance against oxidative stress than non-transformed tobacco plants. Parveez allegedly teaches that oil-palm plants can be transformed. The Examiner contends that it would have been *prima facie* obvious to one skilled in the art, at the time the invention was made, to transform a plant cell, including an oil-palm plant cell, with a nucleic acid molecule encoding a 1-Cys peroxiredoxin, such as the nucleic acid molecule encoding a 1-Cys peroxiredoxin taught by Lewis. The Examiner further contends that Lewis et al. teach a nucleotide that encodes a protein comprising an amino acid sequence as set forth in SEQ ID NO:2.

The Examiner's rejection is again premised on the position that Lewis teaches a nucleic acid molecule that encodes a 1-Cys peroxiredoxin polypeptide comprising an amino acid sequence having 79% similarity to instant SEQ ID NO: 2. However, as submitted above, Lewis does not teach or suggest a nucleic acid molecule that encodes a protein having at least 80% sequence identity with SEQ ID NO: 2, wherein the nucleic acid permits discrimination of plant tissue at different developmental stages as presently claimed. Thus, the basic premise of the Examiner's obviousness rejection no longer exists. Accordingly, the rejection of claims 25-26 under 35 U.S.C. §103(a) is overcome. Withdrawal of the rejection is respectfully requested.

### ***Conclusion***

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter I. Bernstein', with a long horizontal flourish extending to the right.

Peter I. Bernstein  
Registration No. 43,497

Scully, Scott, Murphy & Presser, P.C.  
400 Garden City Plaza, Suite 300  
Garden City, New York 11530  
(516) 742-4343  
PIB:dk